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ABSTRACT

This paper has been written as a supporting paper to "A Bridge to the Future: Australia's National Strategy for Vocational Education and Training 1998-2003" (ED 420 764). Technology has an impact on industry in terms of the work done, how it is done, and how individuals live and do business. Globalization means that business--and the business of education--is conducted on a world stage. Workers must be skilled in technology to get jobs and do them effectively and competitively. Reforms in the Australian vocational education and training (VET) system provide components for providers to respond effectively to demand for customized products. Training Packages and the Australian Recognition Framework provide the elements for training programs that can be tailored to meet clients' needs. "Buyers" can be sure that training programs and products developed by registered training organizations from Training Packages are consistent, of high quality, and customizable to meet specific needs. Under the National Training Framework, "purchasers" of VET products can expect the same quality approach, industry-set competency standards, links to qualifications, and rigorous assessment. The practical impact on individuals is better access to information, access to more modern equipment and technologies, and more providers to choose from. The government's Networking the Nation initiative provides funding for rural and remote communities to identify communication needs and development and implement projects that meet them. Government leadership is needed in the critical areas of infrastructure, standards and product development, professional development, and change management. (Contains 22 endnotes) (YLB)

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ED 423 418

Eyes Wide Open - Vocational Education & Training in the Information Age

A Supporting Paper to Australia's National Strategy for Vocational Education and Training 1998 – 2003

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Australian National Training Authority
AMP Place, 10 Eagle Street, Brisbane 4000
GPO Box 3120 Brisbane 4001
Telephone: (07) 3246 2300 Facsimile: (07) 3246 2490
Home Page: http://www.anta.gov.au
ISBN 0 642 25399 4

Purpose

The purpose of this paper is to elaborate the basis, in analysis and in thought, for the Australian National Training Authority Board's proposal that there be an increased focus on technology to enhance the delivery of vocational education and training in Australia, as reflected in the National Strategy.

Eyes Wide Open has been written as a supporting paper to *A Bridge to the Future: Australia's National Strategy for Vocational Education and Training 1998-2003*. The paper:

- provides a vision of VET in an environment of technological change
- assesses and acknowledges the impact of the information revolution and in doing so positions Australia's VET system to take a leading role in these changes.

Technology has influenced the ANTA Board's approach to the National Strategy because technology will become more and more of a change agent in the lives of Australians, *especially* over the next five years, as it lands firmly in the hands of 'ordinary' people.

Taking stock of the impact of technology means that the VET sector is better placed to assist people.

Key issues

- How globalisation means that business - and the business of education - is now conducted on a world stage instead of a local one
- How new forms of communication such as the internet are throwing open educational markets and methods for getting and using information
- Why workers will need to be skilled in technology, both to get jobs and to do those jobs effectively and competitively
- Where investment is required by governments, in order to kickstart and meet infrastructure challenges
- Why we cannot afford to lose sight of people (teachers and students) in the information age and why professional development is crucial.

Technology in work and living

Technology is a form of invention, invention is just problem solving. As we approach the close of this century, we are "solving problems" faster than ever before.

Technology impacts on industry in terms of *what* work we do, technology forces changes in *how* we work, technology enables huge changes in *how* we live and do business.

Airbags, ABS and onboard navigation for cars are technological developments that are changing *what* work we do, by creating new products and shifting industry (and therefore employment) growth. At the same time, new information-based skills are in high demand, intellectual property and know-how are commodities in a changing labour market.

Technologies are changing *how* we work and do business by providing electronic ways of sending a letter, paying a bill and even selling goods. Service institutions such as banks are changing, conducting more business via supermarket booths and electronic funds transfer. New skills and training are essential, not only for the people who are *building* technologies, but for the people who are *using* them and learning to operate in new ways.

No industry or sector is untouched by this technological change - as Neil Weintraut, a leading venture capitalist in Silicon Valley says:

In this new age every business is an IT business. The Internet is touching and transforming all industries[1].

A step back in time

- The internet was a product of the Cold War, when the USA took steps to guarantee communication channels even in the event of a nuclear war. With its unique method of 'packaging' bits and pieces of information to be sent separately around the world and decoded at their destination, the internet provided the answer. The first network was a humble group of four computers which went online in late 1969.
- Through the 1970's and 1980's the number of networks grew rapidly in scientific, research and government circles. But it was not until 1989, when a team at the European Laboratory for Particle Physics (CERN) in Switzerland designed a user friendly and graphics-based interface - the World Wide Web - that the internet - and therefore email - became a business and consumer accessory.
- Email can do in a few seconds, for a few cents, what used to take minutes or days at a higher cost... and only email delivers an electronic product which can be easily copied, modified or updated.

The great leap forward

It seems clear that the internet, and therefore the web and email, will be standard issue in workplaces, educational institutions and homes within a few years.

The exponential growth figures are getting beyond those we can count. The internet was doubling in size every year by 1988 but is now doubling every 3 months or so. The number of people on the internet is expected to increase tenfold, from 100 million to 1 billion by 2005[2].

These are only estimates. The market is moving too fast, and is too difficult to measure, to make a static, accurate assessment of its size. What we do know is that businesses (or industries, or nations) who wait to see "how it shakes down" will be left behind and may not even survive.

Things will move even faster as more and more people learn to use, enjoy and - the biggest obstacle - *trust* new technologies in all aspects of work, leisure and learning time. While many people are surfing afficionados, only a fraction are launching credit card numbers into the world wide web ether.

Changing times

Globalisation

Globalisation, through the expansion of information networks and the growth of multinational organisations, will continue to transform the way we work.

Once a business - or, for that matter, a VET provider - has an internet presence, they are no longer in a local market but a global one. On the one hand, a web site means a 24 hour, 7 days per week shopfront to the world. On the other hand, if there's no one on the other end of the counter to explain and promote the product and if the virtual sales pitch isn't great the first time, a potential buyer can be lost. The same principle applies to the education industry.

So cut-rate and quick fix web sites are not the answer, a world wide web performance must be best practice the first time around. There are no second chances where another provider might easily step in to fill the void.

E-commerce

While the majority of electronic transactions are currently carried out between businesses, business-to-consumer transactions will grow dramatically in the 21st century. The biggest transformation is coming in the selling of goods and services over the internet.

A recent report from the Department of Foreign Affairs and Trade estimated the global value of internet transactions to be worth $US100 billion ($AUS136 billion) a year by 2000, with banking and financial services, securities trading, travel and online shopping malls the areas of greatest potential[3].

Electronic commerce is eroding national borders, enabling small Australian businesses to access overseas markets and Australian consumers to roam the world for bargains.

- E-commerce is redefining what business is all about.

Technology convergence

'Convergent' technology refers to a cluster of technological developments which are now merging the infrastructure, equipment, services and ownership of several previously distinct industries, such as broadcasting, telecommunications, computing, publishing and entertainment. Not only are there more choices than ever before, but technologies are merging into super-devices capable of the work of a telephone, facsimile, computer, post box, TV and stereo all at once:

You'll be getting the internet on your television set. You'll be getting broadcast television on the personal computer. You'll be making telephone calls from both[4].

Roll-out of broadband cabling (high capacity optical fibre networks) to homes and educational institutions as well as businesses is the key to accessing the power of convergent technology.

Changes in the workplace

Globalisation, competitive pressures and new technologies are forcing changes in the workplace, and in workers themselves. During his March 1998 visit to Sydney, Microsoft Chairman Bill Gates commented that:

the nervous system of an organization is all the ways that inform a company...all the ways that information moves - paper, meetings, phone calls - and...the digital part is using technology to do that in new ways[5].

Daniel Petre, a member of the Federal Government's Information Policy Advisory Council and a former vice-president at Microsoft, is critical of Australia's response to the online economy, at least in comparison with the US. He also warns that graduates with the technical and creative skills needed by the net-driven IT industries are being forced (or lured) overseas[6].

The national strategy for vocational education and training 1998-2003 recognises:

Knowledge based occupations and industries are the fastest growing and best remunerated. They call for new and different skill mixes in their workforce, and particularly proficiency in information and communication technologies. It is crucial that vocational education and training equips people with the knowledge and skills necessary to meet these demands[3].

As well as growth in the IT industry itself, new technologies are being developed and introduced across all industry sectors and most areas of work, boosting productivity and creating demand for new and different skills. Information technology is expected to drive sustained economic and employment growth into the 21st century.

Despite this, downsizing in many organisations has been a side effect of efficiency measures and the pressure to be competitive. Retrenchment and redundancy used to be something that happened occasionally, in specific industries, as a result of cataclysmic change. In recent years, it has become a more common experience.

Full time work is increasingly on a contract basis, and part time work is accounting for an ever greater share of employment. In both cases, performance assessment and greater accountability is the rule.

In this context, it is possible that more and more people, equipped with online technology, will work for themselves rather than be employed by larger organisations. The world wide web, for instance, can bypass the intermediary, putting purchasers in direct contact with manufacturers or wholesalers, whether across town or across the globe.

Imagine, for a moment, a future in which the only multinationals are AT&T and UPS...In a fully wired world, there is no reason why all economic transactions cannot be negotiated directly between those who have the goods and those who have the needs[4].

Information rich, information poor

Information overload is cited as one of the modern day stresses of working in an age where knowledge and information are the main commodities being traded. In a training context, the sheer plethora of information sources available can overwhelm without an effective guide, teacher or trainer.

Such a richness of information, though, is not the case for many Australians.

Vocational education and training in the information age has a lot to offer clients who have until now been prevented, by disability or distance, from accessing the learning experiences they want.

One of the most powerful developments of the Information Age is its power to give ordinary people access to resources which were locked up behind walls, in libraries...that, formerly, only a minority could access[5].

But, new technologies are not yet, and never will be, the complete answer for rural and remote areas and disadvantaged people.

- What happens when equipment breaks down? What happens when monsoonal flooding cuts the email to sites in the Northern Territory? (as it did earlier this year) Do people have the literacy and numeracy skills to use the hardware? Are providers under such cost pressures that they are loath to meet the market? Who pays those phone bills?

Training delivered in new ways made possible by technology has the potential to address current inequities of access, so long as issues of infrastructure, costs, instructional design, learning support and cultural relevance are also addressed. Learning communities unhampered by walls or distance can exchange information, collaborate on projects and leverage their individual knowledge.

Pedagogy and cybergogy

The debate on technology based and technology assisted teaching and learning is cranking up on all sides of the planet. The reality is that teachers and learners have always used a range of communication methods and it is *human beings* who are using technology to make learning happen. Technology cannot replace the teacher or trainer - and must not reduce their role merely to content provider in a "ravioli metaphor" where the techno-buffs control the delivery:

you provide the filling, we wrap, cook and serve it up[6].

There will need to be changes to maximise the use of technology in learning and teaching, and most of all a change to the mindset of both teachers and learners:

Using flexible learning, the teacher is no longer central to the passing on of information, but to the resourcing of the learner, who will then research and absorb the information[7].

Why Australia is in the right place at the right time

Australia is well placed to capitalise on the information and technology phenomenon, and make it an integral tool of education and training.

- Our population, whilst low, is *distributed* from north to south and east to west.
- We occupy a land area almost as *large* as mainland USA making physical communication time consuming and costly - providing an incentive for investment in infrastructure.
- We are a western, 1st world, relatively *affluent* nation accustomed to *importing technologies* and exporting base products.
- We have the social, economic and political *stability* that is required for large scale commercial investment in information technologies
- We are *early adopters* and recognised as talented and innovative *adapters* of technology
- We are high in literacy skills by world standards and already have a comprehensive compulsory and post compulsory government funded *education system*.
- We are moving towards an open market and a *deregulated* telecommunications industry.
- We speak English - the language of the internet and of the market leader in telecommunications - USA, who control 80% of the worlds PC market and 90% of the worlds chip market.

Why Australian VET is well positioned

A market which is ready

This paper has already outlined the take-up of technology in Australia. This take-up represents an opportunity to utilise the competitive advantage of Australia's approach to vocational education and training and to develop both domestic and export markets. The other side of the coin is that if our clients cannot get the training they want from the Australian vocational education and training system, they will look outside, to the global market to meet their needs.

A marketable VET system

To compete effectively in an increasingly global market, it is essential to deliver customised products to buyers - not only 'just in time', but 'just for you' and 'just enough' to gain the immediacy of skills required.

We have technology changing so rapidly that people have to make a major upgrade to their skills every three to five years to remain current[11].

Reforms in the Australian VET system provide the components for providers to respond effectively to this demand. Training Packages and the Australian Recognition Framework provide the elements for training programs that can be tailored to meet the needs of clients. The use of Training Packages leaves the mix and method of training delivery to the registered training organisation.

What the statistics say

The national strategy recognises that Australia is fast becoming an information society. We have mobile phone, personal computer and internet take up rates which are among the highest in the world.

In our country, 40-50% of homes have personal computers, and at least a quarter of these have internet connections[12]. Australia is producing 6% of the world's web sites at a time when our numbers account for less than half a per cent of the world's population[13].

Internet connections in Australia are growing at an exponential rate - up to 10% per month. There are up to 3 million internet users in Australia, making us one of the largest consumers in the Pacific Rim[14].

Best practice products and service

Customers buying in this new market are not looking for homogenous products, but (in the VET context) training programs which recognise their diversity of experience and individual requirements and can be tailored to their needs.

'Buyers' can be sure that training programs and products developed by registered training organisations from Training Packages will have consistency and be quality assured and at the same time can be customised to meet specific needs.

The internet opens up a world wide market for Australian providers, but at the same time potential overseas competitors can view the Australian market as particularly inviting.

A 'wait and see' approach in Australia could mean surrendering significant leadership in development of new products and the means of delivery to overseas providers with all that this implies for an education and training system which would forfeit much of its Australian identity and there is an associated risk that the competitive advantage afforded by Australia's approach to training would be diminished.

Australian-branded VET product

A brand name both suggests and is characterised by elements of quality and consistency. Wherever 'purchased' a branded product or service promises the same quality and benefit to the purchaser.

Under the National Training Framework, 'purchasers' of Australian vocational education and training products can expect, across the nation, the same quality approach, the same industry set competency standards, the same links to qualifications, the same rigorous assessment.

The system is ready to market an Australian-branded VET which meets the high standards needed to attract 'buyers' and to increase market share both here and in export markets.

Australian industry should not be dependent on imported training product which has no relationship to the needs of Australian industry. If Australia is to retain an educational identity and, in addition, enter new markets, then the development of technology-based education and training must be a national effort, from governments, from industry and from training providers acting entrepreneurially, individually and in partnership.

VET Providers who have the skills

Providers in the Australian VET system, both public and private, have recognised the need to utilise new technologies as a tool both in delivery and in administration - some providers are intending, *for some programs and client groups*, to manage enrolment, student records, delivery, student support and information, assessment and awarding of qualifications via the internet. To this end, forward thinking providers are promoting skills acquisition and skills transfer amongst their staff:

educators, administrators and managers need to be skilled in the use of technology, and technologists need to understand how their systems may be used to facilitate and support learning".

Providers are also addressing issues of learner readiness for educational technologies, expanding programs in information literacy to encompass skills both in accessing and interrogating online sources and, most importantly, evaluating and assessing their validity and relevance.

Australia's VET providers are well positioned to assist their clients through the National Training Information Service, providing direct access to current and emerging training market information and products in vocational education and training.

Impact on individuals in training

The global changes outlined above will flow through to vocational education and training. The practical impact on individuals will be growth in open learning centres as satellites for students and teachers, better access to information, access to more modern equipment and technologies, and more providers to choose from.

For the individual in training, it will mean more choice over what, when, where and how to access training services - everything from enrolment to examination, including research, discussion groups and obtaining results.

Leading edge examples

Online campuses and networks are emerging all over Australia and this trend will continue; Victoria is managing the **Virtual Campus** project, Queensland has its **VETTWEB** network, South Australia is moving forward with **TAFE SA Online**. At the institute, campus and enterprise level, a web presence is now the rule rather than the exception.

At the **New England Institute of TAFE** campus in Narrabri, retail traineeship students can remotely access off the job training with the support of regional employers like Woolworths, Coles and Harvey Norman. At **William Angliss Institute of TAFE** in Melbourne, hospitality students can undertake a virtual tour of the Windsor Hotel and its various functions. A growing number of vocational education and training providers, both public and private, are making similar opportunities available to students.

On the enterprise side, **Metway Bank** staff have access to a self-paced online training system on consumer banking. At the **Boeing** Training Centre in Seattle, technicians are trained using the latest in multimedia over a sophisticated computer network. A comprehensive technology based platform will offer distance education to thousands of Australian Defence personnel, with the support of a network of regional training centres. **IBM** has reduced training expenditure on classrooms and buildings from 25 per cent to around 8 per cent, and is investing in systems, connections and distance learning instead.

The 'whole of government' response

National Office for the Information Economy

Senator Richard Alston was appointed as Minister for Communications, the Information Economy and the Arts and there is now a National Office for the Information Economy. In April 1998, an e-commerce summit, *Enabling Australia*, was held to share and debate the scope of the information age. The Minister for Employment, Education, Training and Youth Affairs, Dr David Kemp was among the speakers, indicating that employment education and training is a key focus of the information age.

For vocational education and training as well as large and small businesses, being part of the information age is about competitiveness:

The objectives of the Summit are clear...Australia's business and government leaders must work together to thrash out the business opportunities presented by the rapidly evolving technological and electronic environment. It is a national economic imperative.

Participation in the international information economy is not an option - it is Australia's only option if our domestic and international businesses are to maintain their position and prosperity...The 'wow' factor of the online economy is a thing of the past. For business it must be the 'now' factor[1].

Regional Telecommunications Infrastructure Fund

The federal government has introduced a five-year $250 million Regional Telecommunications Infrastructure Fund called *Networking the Nation*, which will provide funding for regional, rural and remote communities to identify their communications needs, and develop and implement projects that meet those needs.

Networking the Nation provides funds for infrastructure development, trials of innovative technology, service provision and cost subsidies for regional and remote areas. This initiative is rolling out cable and connections where it has not yet been profitable enough for commercial interests to pay the way.

Vocational education and training can *'leverage'* off this investment, linking metropolitan providers with regional and remote outposts and Learning Resource Centres (LRC's). Actual delivery and assessment of vocational education and training via internet technologies is still in its infancy, although excellent progress is being made with video and audio conferencing and audiographics.

Deregulation and re-regulation

To take advantage of the information revolution, an economy needs to have the right regulatory climate. The first step involves deregulation - of telecommunications, imports and exports, service providers. In Australia, this process is already well underway.

The next step, only just beginning, is to strike a balance between market forces and consumer protection. The Australian government has already indicated it favours the US, minimalist approach to internet regulation. Notwithstanding this, areas acknowledged by Senator Richard Alston as needing further work in the online economy are **content regulation, taxation, privacy and copyright**.

- For the e-commerce world, this means whether or not (and how) to monitor material on the internet; whether or not (and how) to tax online transactions; having appropriate security measures (and guaranteeing consumer confidence in them) and policing author's rights.

Meeting the challenges

This paper has already considered some of the issues concerning new technologies in vocational education and training - e-commerce, changes in the workplace, information poverty. There are other challenges, including:

- the need to guard against profit takers and 'digital diploma mills'

In his essay *Digital Diploma Mills: The Automation of Higher Education*, David F. Noble writes about the dangers inherent in commercialising education, turning teachers and teaching materials into commodities for the benefit of vendors of hardware and software, institution administrators and 'technozealots'[9].

- the need to address costing and resourcing of technology based learning
- the need to preserve the Australian identity in a VET system that we have worked so hard to build
- the need to resist over-rationalisation of institutions and regional services
- the need to address security and copyright issues in assessment and authorship
- the need to assess and respond to the readiness - or not - of VET students for online delivery

There is evidence that Australian VET students have poor levels of readiness for self-directed learning and exhibit preferences for traditional modes of delivery and modes of learning[10].

- the need to value and support the human role in quality learning experiences.

The West Review of Higher Education in Australia observes:

> ...*The fears felt by some in the academic community that the new technologies may reduce opportunities for human interaction and in this way reduce the quality of teaching. Given the emphasis that employers place on skills such as teamwork and verbal communication, we would be very surprised if face-to-face instruction were ever to disappear...*[3]

Where to from here

It is the role of government to provide leadership in response to some of the immediate challenges of technology, and all State and Territory training systems have supported national action. ANTA is well placed to facilitate this national action in terms of the critical elements of the 1998 ANTA Flexible Delivery Action Plan: *infrastructure, standards and product development, professional development and change management.*

Infrastructure issues

New information and communications technologies present both opportunities and challenges for increased flexibility in VET delivery. Plans for investment in these technologies have substantial infrastructure implications. Most States and Territories have plans to enhance VET delivery through interactive technologies, but there is a real need to steer the national system in agreed directions.

In response to the pressing need for debate and agreement on what constitutes infrastructure and what kind of balance can be struck between physical and technological infrastructure and indeed whether it should include intellectual property, ANTA has initiated a Review of the National VET Infrastructure Program. The report from the first consultation stage states:

> *Much depends on how well Australia's VET system can harness its collective resources to meet the challenges for all VET stakeholders posed by new information and communication technologies*[4].

The report also recognises that closer national cooperation in the application of resources to support forms of delivery using online technologies is essential, and notes that there is already substantial national consensus around some of the critical issues.

- We need, governments, industry and providers, to invest in hardware and software to provide the platforms for the new online learning environment. This includes the bridging technologies which will make any to any communication a reality which we can take for granted as naturally as we do when picking up the telephone.

National technology standards

Throughout 1997 and now under the 1998 Flexible Delivery Action Plan, various national flexible delivery projects have built constructive relationships across State and Territory boundaries.

In 1997, Commonwealth, State and Territory CEOs endorsed a National Technology Standards Policy which states that the aim is to maximise national connectivity and associated interoperability between all participants in the VET sector. National standards to this end would be developed cooperatively with major stakeholders, and development of these standards would be according to a range of considerations, including flexibility and options in training delivery.

During 1998, national consultation on a set of draft standards will be conducted, on the premise that any-to-any connectivity is a key policy objective, and standardisation in the VET sector will enhance its overall efficiency. The autonomy of State/Territory systems and providers, and the differing needs of individual programs and projects make it inappropriate to take a prescriptive approach to the adoption of standards.

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However, a great deal can be done to encourage compatibility through identification and dissemination of information in various areas of technology, and through assisting liaison between users in different States and Territories. Issues of cost of achieving compatibility may be appropriately addressed in the outcomes of the Infrastructure Review. Today's technologies mean that neither clients nor providers are constrained by state/territory borders, so a national focus on structures is to the advantage of all stakeholders.

Professional development

A new model of staff development, *Framing the Future*, began in 1997 and has been a very effective method of assisting VET practitioners to access information and skills development - just in time and just for them - through an Australia-wide network of advisers and through work-based learning.

This successful model is being extended into 1998 and expanded, through a major national project in the ANTA Flexible Delivery Action Plan, to establish a network of flexible delivery advisers and work-based learning projects which will encompass the use of new technologies in education and training.

- We need, governments, industry and providers, to assist teachers and trainers to take on new roles such as online course developers, facilitators and providers of online user support. We need to recognise, and invest in, the readiness, skills and motivation of both teachers and learners, to make the system work.

Change management

All State and Territory Training systems are addressing issues of change management in terms of technology. At the groundbreaking combined physical and online conference, *NET*Working 97*, managers, teachers, designers, public and private training organisations and policy makers shared experiences and exchanged information about online learning with a sense of urgency that the world would not wait for Australia to get its act together in respect to technology and VET.

Again, the 1998 ANTA Flexible Delivery Action Plan will sponsor an online conference, practising - and preaching - to the converted and the still to be convinced. The online conference will be held in conjunction with a number of workshops linked to these four critical areas and providing the opportunity for an update on developments all around Australia and the outcomes of national projects.

- We need, governments, industry and providers, to manage change, change our mindsets, inspire the new training industry, and encourage and assist enterprises, training organisations, teachers and students to take part.

Online product development

The 1998 Flexible Delivery Action Plan outlines a significant national project which is aimed at fostering the development of world-class online training programs, through the development of flexible delivery 'toolboxes' for Training Packages and through an Investment Fund to provide venture capital for providers who are ready for online delivery.

Toolboxes are designed to be sets of resources which provide a framework for building training programs linked to Training Packages for online delivery, with content which can be customised by any registered training organisation for their specific client groups and for particular enterprise needs.

- The 'Toolbox Development Project' in particular has the potential to leverage a currently limited expertise to a capability for the majority of training providers to 'build' their own customised online training programs through access to these resources.

E-learning?

Governments, industry and providers need to be leaders in adopting and using the new communication and information technologies. We need to be exemplars in becoming learning organisations, to acknowledge and promote the fact that learning (of a person or an organisation) occurs throughout life and to use new technologies to deliver learning opportunities in ways that meet people's needs. Just in time, just for them, and just enough.

Final say

It is difficult to predict where technology will take us in the 21st Century and a readiness to change will be crucial. But only with our eyes wide open to the social, economic and technological influences on the training market are we positioned to achieve a national vision for VET in the information age.

The warning is there:

We are hurtling into an Information Age with the institutions, mindsets and, mostly, the technology of the industrial age[22].

Australia has a window of opportunity, a small headstart with a vocational education and training system which leads the world in terms of flexibility and quality assurance, with social, economic and political stability, an open market and deregulated telecommunication system ...and the ability and potential of our people.

It is 'lead time' for Australian training in the information age.

[1] Quoted by Senator Richard Alston, Minister for Communications, the Information Economy and the Arts, *Enabling Australia* Summit (16 April 1998).

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